

Claims

What is claimed is:

- 5 1. A method comprising:
 counting a number of non-consecutive groups of consecutive
 samples meeting a predetermined threshold requirement;
 determining if a count of the number of non-consecutive groups of
 consecutive samples meeting a predetermined threshold requirement
10 meets a settle criteria; and
 transitioning from a seek control operation to a track following
 control operation in response to determining that the count of the number
 of non-consecutive groups of consecutive samples meeting the
 predetermined threshold requirement meets the settle criteria.
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2. The method of claim 1, wherein counting a number of non-
 consecutive groups of consecutive samples meeting a predetermined
 threshold requirement includes:
 incrementing a consecutive counter if a sample is within the
20 predetermined threshold requirement; and
 incrementing a non-consecutive counter based on a current count of
 the consecutive counter.
3. The method of claim 2, wherein the consecutive counter has an
25 associated first settle criteria of n number of consecutive samples, and
 wherein the non-consecutive counter has an associated second settle
 criteria of m number of non-consecutive groups of consecutive samples.
4. The method of claim 3, wherein the non-consecutive counter is
 incremented in response to a current count of the consecutive counter
30 being equal to n.

5. The method of claim 4, wherein the consecutive counter is reset such that a current count of the consecutive counter is zero in response to incrementing the non-consecutive counter.

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6. The method of claim 3, wherein the seek control operation is transitioned to a track following control operation in response to a current count of the non-consecutive counter being equal to m.

10 7. A method of transitioning from a seek control operation to a track following operation in a disc drive system, comprising:

sampling a metric of a read/write head of the disc drive system;

comparing the metric to a threshold;

determining if the metric is within the threshold or exceeds the

15 threshold;

incrementing a consecutive counter if the metric is within the threshold;

determining if a current count of the consecutive counter is a first predetermined value;

20 incrementing a non-consecutive counter if the consecutive counter is the first predetermined value;

determining if a current count of the non-consecutive counter is a second predetermined value; and

25 initiating the track following operation if the current count of the non-consecutive counter is the second predetermined value.

8. The method of claim 7, wherein the first predetermined value is n number of consecutive samples, and wherein the second predetermined value is m number of non-consecutive groups of consecutive samples.

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9. The method of claim 8, wherein the track following operation is initiated in response to a count of the non-consecutive counter indicates that m number of non-consecutive groups of n consecutive samples have been encountered.

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10. The method of claim 7, wherein the consecutive counter is reset such that a current count of the consecutive counter is zero in response to incrementing the non-consecutive counter.

10 11. The method of claim 7, wherein the metric is a position error of the read/write head.

12. The method of claim 7, wherein the metric is a velocity error of the read/write head.

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13. The method of claim 7, wherein the metric includes both a position error and a velocity error of the read/write head.

14. A controller, comprising:

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a comparator;

a consecutive counter coupled to the comparator; and

a non-consecutive counter coupled to the consecutive counter;

wherein the comparator receives sampled data, compares the sampled data to a threshold, and outputs a result of the comparison, wherein the

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consecutive counter either increments or resets based on the results of the comparison, wherein the non-consecutive counter increments when a count of the consecutive counter reaches a first predetermined value, and wherein the non-consecutive counter initiates a transition of control to a track following control when a count of the non-consecutive counter

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reaches a second predetermined value.

15. The apparatus of claim 14, wherein the first predetermined value is
n number of consecutive samples, and wherein the second predetermined
value is m number of non-consecutive groups of consecutive samples.

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16. The apparatus of claim 15, wherein the non-consecutive counter is
incremented in response to a current count of the consecutive counter
being equal to n.

10 17. The apparatus of claim 16, wherein the consecutive counter is reset
such that a current count of the consecutive counter is zero in response to
incrementing the non-consecutive counter.

18. The apparatus of claim 14, wherein the non-consecutive counter
15 initiates the transition of control to the track following control operation in
response to a current count of the non-consecutive counter indicating that
m number of non-consecutive groups of n consecutive samples have been
encountered.

20 19. The apparatus of claim 14, wherein the sampled data includes
position error data of a read/write head of a disc drive.

20. The apparatus of claim 14, wherein the sampled data includes
velocity error data of a read/write head of a disc drive.

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